

REMARKS

Claims 1 and 3-17 are all the claims pending in the application. Claims 1, 3-8 and 17 are rejected. Claims 9-16, which were withdrawn from consideration, are now cancelled without prejudice to the filing of a divisional application thereon..

The applicants have thoroughly reviewed the outstanding Office Action including the Examiner's remarks and the references cited therein. The following remarks are believed to be fully responsive to the Office Action, and are believed to render all claims at issue are patentably distinguishable over the cited references.

Claim Rejections under 35 U. S. C. § 103(a)

Claims 1, 3-8 and 17 are rejected under 35 U.S.C. § 103 (a) as being unpatentable over by Jewell (US Patent No. 5, 882, 948) with Komoto et al (US Patent No. 6,340,824).

With respect to Claims 1 and 17, the Examiner cited a new reference of Jewell to show layers 30 which are both oxidizable and, which when oxidized would be current insulating. Alternatively, Komoto et al. is relied upon to teach the specific layer structure of an LED, which would have been obvious in order to produce an LED as desired explicitly by Jewell.

Jewell does teach a bottom mirror (bragg reflector layer) 16 comprising alternating oxidizable layers 30 and non-oxidizable layers 32. However, Jewell's bottom mirror 16 is connected to electrodes 39 via conductive channels 38 (see Figure 1a and the related description of the specification). Jewell actually teaches both top mirror 28 and bottom mirror 16, and both are connected to respective electrodes 13 and 38 through channels 12 and 38. As recited in claim 1 of the patent, Jewell's structure includes **a light emitting material; a current aperture region proximal to the light emitting material; an aperture region comprising at least one layer of oxidizable material; a second semiconductor layer above the light emitting material; an impurity material diffused through a first region of the layer of oxidizable material to decrease the susceptibility to oxidization in the first region of the layer of oxidizable material, the impurity providing an electrically conductive channel through the layer of oxidizable material; an exposed sidewall of at least one layer of the oxidizable layers; and a current aperture in the**

oxidizable layer. Apparently, the current aperture region 24 is disposed between the top mirror 28 and the bottom mirror 16, and the top mirror 28 and the bottom mirror 16 both have cavities (channels 12 and 38).

In contrast, the claimed invention merely teaches a bottom mirror (bragg reflector layer 19) without a top mirror. Also, the present invention has a bragg reflector layer 19 that does not have any cavity (channels) used for connecting to electrodes 30 and 40, and does not teach any structure similar to Jewell's current aperture. The reflector layer of the claimed invention also does not have the exposed sidewall like Jewell's.

Furthermore, such as stated at pages 8 lines 3-4 of the specification, the high aluminum-contained AlGaAs/AlInP (i.e. bragg reflector layer 19) is **partially oxidized** to form an insulator with low refraction index, and as described in page 8 lines 13-15 of the specification, a treatment of oxidation is processed for high aluminum-contained AlGaAs layer 19c **from outside to inside**. The term "partially oxidized" used herein not only indicates that the entire layer component of the bragg reflector layer 19 may be oxidized, but also that the layer component of the bragg reflector 19 may merely be oxidized partially along the lateral directions, i.e. a portion of the layer component 19a is oxidized. In contrast, Jewell's bottom mirror 16 is composed of the totally-oxidized layers 30, and Jewell does not teach that the layers 30 can be oxidized partially along the lateral directions.

Since Jewell's structures needs to use a bottom mirror together with a top mirror and channels to connect the top and bottom mirrors to electrodes, and has exposed sidewalls, and needs to form a current aperture between the bottom mirror and the bottom mirror, Jewell's structure is extremely different from that of Komoto et al. and that of claimed invention. Therefore, it is not obvious for those who are skilled in the art to produce the claimed invention by learning Jewell in view of Komoto et al., for either Jewell or Komoto et al. lacks the motivation to be combined together for disclosing or suggesting the claimed invention. Therefore, Jewell in view of Komoto et al. do not teach or suggest the subject matter in Claims 1 and 17 of the present application.

Amendment under 37 C.F.R. § 1.116
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With regard to Claims 3-8, since Claim 1 is patentable, dependent Claims 3-8 depending from independent Claim 1 are likewise patentable. Accordingly, the applicants respectfully request that the section 103(a) rejection be withdrawn.

Accordingly, Applicants respectfully request that the section 103(a) rejections be withdrawn.

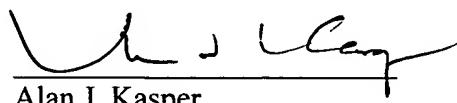
Conclusion

In light of the above remarks, the applicants respectfully submit that Claims 1, 3-8 and 17 as currently presented are in condition for allowance and hereby requests reconsideration. The applicants respectfully request the Examiner to pass the case to issue at the earliest convenience.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

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